WHAT IS CLAIMED IS:

1. A gait detection system comprising:

a microphone for picking up vibrations generated by a pedestrian while walking and for converting the vibrations into electrical signals;

analysis means for analyzing variations in signals corresponding to a frequency less than or equal to a predetermined frequency on the basis of the electrical signals converted by the microphone, for detecting the gait of the pedestrian, and for generating information on the gait; and

output means for outputting the information on the gait.

2. A gait detection system according to Claim 1, wherein the analysis means determines the pedestrian's gait pattern on the basis of at least one of the duration and the frequency intensity of a signal in a frequency band less than or equal to 100 Hz.

3. A gait detection system according to Claim 1, wherein the analysis means estimates the step length of the pedestrian on the basis of a gait cycle detected by the analysis means and the pre-input height of the pedestrian.

4. A gait detection system according to Claim 3, wherein the analysis means estimates the distance traveled by the pedestrian on the basis of the step length and the number of steps detected by the analysis means.

5. A gait detection apparatus comprising:

analysis means for analyzing a frequency component of a signal based on a vibration transmitted through the body of a pedestrian while walking and for detecting the gait of the pedestrian; and

output means for outputting information on the gait detected by the analysis means.

6. A gait detection apparatus according to Claim 5, further comprising a filter which allows only a signal in a predetermined frequency band to pass through,

wherein the analysis means detects the gait of the pedestrian on the basis of the presence or absence of the signal having passed through the filter.

7. A gait detection apparatus according to Claim 5, further comprising data storage means for storing signal data corresponding to a gait model pattern,

wherein the analysis means analyzes a signal by comparing the signal with the signal data stored in the data

storage means and by determining whether or not the pattern of the signal matches the signal data.

8. A gait detection apparatus comprising:

detection means for obtaining a gait cycle of a pedestrian while walking; and

step-length estimating means for estimating step length of the pedestrian from the gait cycle obtained by the detection means and the pedestrian's height which is externally input.

9. A device to be mounted on a user, comprising:

a microphone for picking up ambient sounds and for converting the ambient sounds into electrical signals:

analysis means for analyzing variations in signals corresponding to a frequency less than or equal to a predetermined frequency on the basis of the electrical signals converted by the microphone and for detecting the gait of the user; and

display means for outputting information concerning the gait detected by the analysis means using characters.

10. A device according to Claim 9, wherein the analysis means detects the number of steps walked by the user.

11. A gait detection method comprising the steps of:

detecting components in a frequency band less than or equal to 100 Hz from vibrations transmitted through the body of a pedestrian while walking; and

converting the detected components into signals and analyzing the signals, whereby the gait of the pedestrian is detected.